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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,701	05/22/2006	**Ronald P. Binstead**	2932-A-7	1949

26740 7590 10/03/2008

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EXAMINER	
LAM, VINH TANG	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
10/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,701	BINSTEAD, RONALD P.	
	Examiner	Art Unit	
	VINH T. LAM	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/13/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawing (FIG. **15**) is objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **77**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Touch Technology with Sleep and Wake Up Circuit.

Claim Objections

3. Claim **4** is objected to because of the following informalities: Typographical error. "...resulting **capactive** signal ..." should be "...resulting **capacitive** signal ..." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims **1-6**, **8-12**, **14**, **20**, **39**, **40**, and **45** are rejected under 35 U.S.C. 102(b) as being anticipated by **Yoshikawa et al. (US Patent Application Publication 2003/0231170).**

Regarding Claim **1**, **Yoshikawa et al.** teach a touchpad comprising a supporting medium supporting a plurality of spaced apart conductors in which there is no electrical contact between the conductors (Col. **3**, [**0054**], Fig. **1**), each conductor being sensitive to the proximity of a finger to modify the capacitance of said conductor to detect the presence of said finger positioned close to that conductor (Col. **5**, [**0079**], Fig. **1**), the touchpad further comprising a means to concentrate electric field between conductors towards the plane of the supporting medium (Col. **3**, [**0051**], Fig. **1**).

Regarding Claim **2**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the means is an electrically conductive medium proximal to said conductors (Col. **3**, [**0053**], Fig. **1**).

Regarding Claim **3**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the means is adapted to locally modify the capacitative environment between a subset of conductors (Col. **3**, [**0051**], Fig. **1**).

Regarding Claim **4**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the means is adapted to accentuate the variation in capacitance of a conductor and to control the dispersion of a resulting capacitive signal propagating from substantially the proximity of said finger (Col. **4**, [**0062**], Fig. **1**).

Regarding Claim **5**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the supporting medium is electrically insulating (Col. **4**, [**0056**], Fig. **1**).

Regarding Claim **6**, **Yoshikawa et al.** teach the touchpad as claimed in claim 2, wherein the conductive medium is in the form of a conductive layer covering at least a portion of the supporting medium (Col. **3**, [**0053**], Fig. **1**).

Regarding Claim **8**, **Yoshikawa et al.** teach the touchpad as claimed in claim 6, wherein the conductive layer is supported by a first surface of the supporting medium or a first surface of a dielectric medium (Col. **4**, [**0056**], Fig. **1**).

Regarding Claim **9**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8, wherein the dielectric medium has a thickness which is relatively large as compared to the thickness of the conductive layer (Fig. **1**).

Regarding Claim **10**, **Yoshikawa et al.** teach the touchpad as claimed in claim 6, further comprising a non-conductive layer proximate to the conductive layer (Col. **3**, [**0052**], Fig. **1**).

Regarding Claim **11**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8, wherein the supporting medium and conductive layer are separated by the dielectric medium (Col. **3**, [**0053**], [**0056**], Fig. **1**).

Regarding Claim **12**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8, wherein the conductive layer is sandwiched between the supporting medium and the dielectric medium (Col. **3**, [**0053**], [**0056**], Fig. **1**).

Regarding Claim **14**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8, comprising a further conductive layer proximate to the dielectric medium and sandwiching the dielectric medium between the further conductive layer and the conductive layer (Col. **3**, [**0054**], Fig. **1**).

Regarding Claim **20**, **Yoshikawa et al.** teach the touchpad as claimed in claim 14, wherein the further conductive layer is supported by a second surface of the dielectric medium, the second surface in substantially opposed relation to the first surface of the dielectric medium (Col. **3**, [**0056**], Fig. **1**).

Regarding Claim **39**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the touchpad is resilient (Col. **3**, [**0054**], Fig. **1**).

Regarding Claim **40**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1, wherein the touchpad is deformable (Col. **3**, [**0054**], Fig. **1**).

Regarding Claim **45**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1 wherein the plurality of conductors comprises a first series of spaced-apart conductors and a second series of spaced apart conductors disposed in intersecting relation (Col. **3**, [**0053**], [**0055**], Fig. **1**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims **7**, **13**, **16-19**, **21-27**, and **38** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US Patent Application Publication 2003/0231170)** in view of **Vranish (US Patent Application Publication 2002/0000977).**

Regarding Claim **7**, **Yoshikawa et al.** teach the touchpad as claimed in claim 6.

However, **Yoshikawa et al.** do not teach that the conductive layer is discontinuous.

In the same field of endeavor, **Vranish** teaches the conductive layer is discontinuous (Col. **2**, [**0031**], Fig. **3**) for the benefit of applying the technology not only to a touchpad but also to a keypad.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Vranish** teaching of discontinuous conductive layer in order to benefit of applying the technology not only to a touchpad but also to a keypad.

Regarding Claim **13**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8.

However, **Yoshikawa et al.** do not teach that the supporting medium is sandwiched between the conductive layer and the dielectric medium.

In the same field of endeavor, **Vranish** teaches the supporting medium is sandwiched between the conductive layer and the dielectric medium (Col. **2**, [**0032**], Fig. **4**) for the benefit of alternatively producing a touchpad.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of the conductive layer is sandwiched between the supporting medium and the dielectric medium to **Vranish** teaching of the supporting medium is sandwiched between the conductive layer and the dielectric medium in order to benefit of alternatively producing a touchpad.

Regarding Claim **16**, **Yoshikawa et al.** teach the touchpad as claimed in claim 2.

However, **Yoshikawa et al.** do not teach that the conductive medium electrically floats or is grounded to earth.

In the same field of endeavor, **Vranish** teaches the conductive medium electrically floats or is grounded to earth (Col. **2**, [**0031**], Fig. **3**) for the benefit of reducing background noise and electromagnetic interference.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of a touchpad to **Vranish** teaching of the conductive medium electrically floats or being grounded to earth in order to benefit of reducing background noise and electromagnetic interference.

Regarding Claim **17**, the touchpad as claimed in claim 16, wherein **Vranish** teaches the conductive medium is grounded by a wire or resistor (Col. **2**, [**0031**], Fig. **3**).

Regarding Claim **18**, **Yoshikawa et al.** teach the touchpad as claimed in claim 6.

However, **Yoshikawa et al.** do not teach that the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or first surface of the dielectric medium.

In the same field of endeavor, **Vranish** teaches the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or first surface of the dielectric medium (Col. **2**, [**0031**], Fig. **2**, Fig. **3**) for the benefit of applying the technology not only to a touchpad but also to a keypad.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Vranish**

teaching of discontinuous conductive layer in order to benefit of applying the technology not only to a touchpad but also to a keypad.

Regarding Claim **19**, the touchpad as claimed in claim 18, wherein **Vranish** teaches the separations between the conductive regions are relatively small compared to the width of the conductive regions, so as to allow capacitive coupling of adjacent regions via the supporting medium or the dielectric medium (Col. **2**, [**0031**], Fig. **2**, Fig. **3**).

Regarding Claim **21**, **Yoshikawa et al.** teach the touchpad as claimed in claim 20.

However, **Yoshikawa et al.** do not teach that the further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium.

In the same field of endeavor, **Vranish** teaches the further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium (Col. **2**, [**0031**], Fig. **2**, Fig. **3**) for the benefit of correspondingly adapting to the keypad design.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Vranish** teaching of the further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium in order to benefit of correspondingly adapting to the keypad design.

Regarding Claim **22**, the touchpad as claimed in claim 21, wherein **Vranish** teaches the conductive regions on the first surface of the dielectric and the conductive regions on the second surface of the dielectric are registered to each other by virtue of corresponding substantially coterminous areas which is an obvious Design Choice indicated by applicant's disclosure (Col. **2**, [**0031**], Fig. **2**, Fig. **3**).

Regarding Claim **23**, the touchpad as claimed in claim 21 wherein the conductive regions on the first surface of the dielectric and the conductive regions on the second surface of the dielectric are registered to each other by virtue of corresponding overlapping non-coterminous areas which is an obvious Design Choice disclosed by applicant's disclosure (Col. **6**, [**0094**], [**0095**]).

Regarding Claim **24**, the touchpad as claimed in claim 22, wherein **Vranish** teaches the registered regions are capacitively coupled via the dielectric (Col. **4**, [**0045**], Table **1**).

Regarding Claim **25**, the touchpad as claimed in claim 18, wherein **Vranish** teaches the conductive regions are substantially rectangular (Fig. **2**).

Regarding Claim **26**, **Yoshikawa et al.** teach the touchpad as claimed in claim 8.

However, **Yoshikawa et al.** do not teach that the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive

regions, the bridges having a width substantially smaller than the width of the conductive regions.

In the same field of endeavor, **Vranish** teaches the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions (Col. **4**, [**0047**], Fig. **6**) for the benefit of adjusting the resistivity to a desired specification.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Vranish** teaching of the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions in order to benefit of adjusting the resistivity to a desired specification.

Regarding Claim **27**, the touchpad as claimed in claim 26, wherein **Vranish** teaches the conductive regions have a relatively large thickness and the conductive bridges have a relatively small thickness to increase the resistance in the conductive layer (Col. **4**, [**0047**], Fig. **6**).

Regarding Claim **38**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** do not teach the touchpad is arranged into a non-planar configuration.

In the same field of endeavor, **Vranish** teaches the touchpad is arranged into a non-planar configuration (Fig. **4**) for the benefit of applying the technology not only to a touchpad but also to other input devices.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Vranish** teaching of the touchpad is arranged into a non-planar configuration in order to benefit of applying the technology not only to a touchpad but also to other input devices.

6. Claims **15**, **28-37**, and **41** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US Patent Application Publication 2003/0231170)** in view of **Tanaka et al. (US Patent Application Publication 2004/0017364).**

Regarding Claim **15**, **Yoshikawa et al.** teach the touchpad as claimed in claim 2.

However, **Yoshikawa et al.** do not teach the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square.

In the same field of endeavor, **Tanaka et al.** teach the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square (Col. **28**,

[**0320**]) for the benefit of having the desired system response time, reducing power consumption, and cost.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Tanaka et al.** teaching of the conductive medium has a resistivity in the defined range configuration in order to benefit of having the desired system response time, reducing power consumption, and cost.

Regarding Claim **28**, **Yoshikawa et al.** teach the touchpad as claimed in claim 2.

However, **Yoshikawa et al.** do not teach the supporting medium and conductive medium are formed as a single conductive support and sensing layer regions.

In the same field of endeavor, **Tanaka et al.** teach the supporting medium and conductive medium are formed as a single conductive support and sensing layer regions (Col. **28**, [**0318**]) for the benefit of reducing parts and manufacturing process.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Tanaka et al.** teaching of the supporting medium and conductive medium are formed as a single conductive support and sensing layer region in order to benefit of reducing parts and manufacturing process.

Regarding Claim **29**, the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach the single conductive support and sensing layer is formed from a bulk doped medium having a bulk conductivity (Col. **28**, [**0318**]).

Regarding Claim **30**, the touchpad as claimed in claim 29, wherein **Tanaka et al.** teach the bulk doped medium is glass or plastic comprising a dopant of conductive material (Col. **30**, [**0340**]).

Regarding Claim **31**, the touchpad as claimed in claim 30, wherein **Tanaka et al.** teach the conductive material is particulate or fibrous (Col. **29**, [**0321**]).

Regarding Claim **32**, the touchpad as claimed in claim 31, wherein the particulates may be formed from metal or metal oxides with a size up to 10 microns wide is an obvious Design Choice to achieve the criteria discussed in Claim 15.

Regarding Claim **33**, the touchpad as claimed in claim 31, wherein the fibrous material may be formed from nanotubes or carbon fibers with a length up to 10 millimeters an obvious Design Choice to achieve the criteria discussed in Claim 15.

Regarding Claim **34**, the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach the plurality of conductors are substantially contained within the single conductive support and sensing layer (Col. **28**, [**0318**]).

Regarding Claim **35**, **Yoshikawa et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** do not teach the plurality of conductors are each electrically insulated.

In the same field of endeavor, **Tanaka et al.** teach the plurality of conductors are each electrically insulated (Col. **1**, [**0006**]) for the benefit of eliminating short circuit.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Tanaka**

et al. teaching of the plurality of conductors are each electrically insulated in order to benefit of eliminating short circuit.

Regarding Claim **36**, the touchpad as claimed in claim 35, wherein **Tanaka et al.** teach each conductor is coated with an electrically insulating sheath (Col. **1**, [**0006**]).

Regarding Claim **37**, the touchpad as claimed in claim 28, wherein the conductive support and sensing layer has a textured surface in the form of surface distortions for the redirection of a point of touch is an obvious Design Choice.

Regarding Claim **41**, **Yoshikawa et al.** teach the touchpad as claimed in claim 2.

However, **Yoshikawa et al.** do not teach the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO).

In the same field of endeavor, **Tanaka et al.** teach the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO) (Col. **30**, [**0340**]) for the benefit of reducing cost by utilizing conventional products.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Tanaka et al.** teaching of the conducting medium chemical composition insulated in order to benefit of reducing cost by utilizing conventional products.

7. Claims **42** and **44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US Patent Application Publication 2003/0231170)** in view of **Lin et al. (US Patent No. 6954868).**

Regarding Claim **42**, **Yoshikawa et al.** teach a touchpad system including a touchpad as claimed in claim 1.

However, **Yoshikawa et al.** do not teach a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position.

In the same field of endeavor, **Lin et al.** teach a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position (Col. **8**, Ln. **1-28**, Fig. **4**) for the benefit of reducing the power consumption utilizing sleep and wake up states.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad to **Lin et al.** teaching of a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position in order to benefit of reducing the power consumption utilizing sleep and wake up states.

Regarding Claim **44**, the touchpad system as claimed in claim 42, wherein the power consumption of the sensing circuit is less than about 10 microamps when sleeping is an obvious Design Choice because it is dependent on the complexity of the circuit design, the area of the touchpad, the number of sensors, and the frequency of monitoring a touch.

8. Claim **43** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US Patent Application Publication 2003/0231170)** in view of **Lin et al. (US Patent No. 6954868)** and further in view of **Files et al. (US Patent No. 5657053).**

Regarding Claim **43**, **Yoshikawa et al.** and **Lin et al.** teach the touchpad system as claimed in claim 42.

However, **Yoshikawa et al.** and **Lin et al.** do not teach the touch is detected in less than about 3 microseconds.

In the same field of endeavor, **Files et al.** teach the touch is detected in less than about 3 microseconds (Col. **7**, Ln. **56-59**, Fig. **7**) for the benefit of improving the response time.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Lin et al.** teachings of a touchpad with sensing system to **Files et al.** teaching of the touch is detected in less than about 3 microseconds position in order to benefit of improving the response time.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is: Yokoyama et al. (US Patent Application Publication 2002/0101409).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:30-5:00) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272 1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VTL/

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629